REMARKS/ARGUMENTS

Claim Rejections – 35 USC 112

Claims 7-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

5   regards as the invention.

Response:

The third memory space, the fourth memory space and the second memory in claims 7, 8 and 11 have been amended to become the first memory space, the second memory space

10   and the first memory respectively. Therefore, the amended claims 7-12 are now definite for pointing out and claiming the subject matter which applicant regards as the invention. Withdrawal of the claim rejections under 35 U.S.C. 112, 2nd paragraph, is respectfully requested.

Additionally, claim 8 has been amended to more clearly define the claimed first,

15   second, third and fourth blocks, which is fully supported by specification paragraph [0006].

As no new matter is introduced, consideration of the claim amendments is respectfully requested.

Claim Objections

20   Claims 1-18 are objected to because of the following informalities: Applicant's use of unacceptable language "motion vector(s)" and "predictor(s)".

Response:

The unacceptable language has been corrected according to the suggestion of the

25   Examiner. No new matter is introduced. Consideration of the claim amendments is respectfully requested.

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<u>Claim Rejections – 35 USC 103</u>

Claims 1-2, 6-8, 12-13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins et al. (Hawkins) US 6,519,287 B1.

5   Response:

<u>Claim 1</u>

In claim 1, the applicant introduces a memory management method under the condition that the first **macroblock** comprises **only one** first motion vector. Hawkins, however, has not considered this condition throughout his invention. After carefully reading
10   Hawkins' disclosure, the applicant respectfully points out that Hawkins' system is designed to handle four blocks in the macroblock, where each block has its own motion vector associated therewith (Hawkins's Col. 5, Lines 37-40). In other words, Hawkins' system stores motion vectors of the blocks in the macroblock according to a block-based means rather than a macroblock-based means. Note is made by the applicant that storing a motion
15   vector of a block in a macroblock when the block has the motion vector only fails to read on storing a motion vector of a macroblock when the macroblock has the motion vector only. Furthermore, the applicant respectfully points out that Hawkins fails to teach or suggest storing only one motion vector of a macroblock. As "macroblock" is a well-defined term known to those skilled in the video processing field and Hawkins' disclosure also has clear
20   definition of it, the applicant asserts that Hawkins' block-based motion vector storing mechanism fails to teach or suggest the claimed limitation of storing a motion vector when a **<u>macroblock</u> comprises the motion vector <u>only</u>** as recited in applicant's claim 1. (*emphasis added*)

In view of above reasons, the applicant therefore asserts that the amended claim 1 has
25   overcome the rejections under 35 USC 103 (a), and placed in condition for allowance.

<u>Claims 2 and 6</u>

Claims 2 and 6 are dependent upon claim 1, and should be allowed if claim 1 is found

allowable.

Claim 7

Referring to the above response of claim 1, the applicant argues that the limitation

5   recited in claim 7 that the first macroblock comprises only one first motion vector is neither

taught nor suggested by Hawkins. Therefore, the applicant asserts that the amended claim 7

has overcome the rejections under 35 USC 103 (a), and placed in condition for allowance.

Claim 8

10   According to the amended claim 8, the motion vectors of the second block (i.e. the

top-**right** block of a macroblock) and the fourth block (i.e. the bottom-**right** block of the

macroblock) are stored. It is distinct from Hawkins' teaching which stores the top motion

vectors and the bottom motion vectors of a block (FIG. 7). Hawkins's base address counter,

address generator, look-up table and SRAM array of motion vectors are all specifically

15   designed for supporting the storage or retrieval of the specific memory assignment illustrated

in FIG. 7 (Col. 6, Line 60 – Col. 7, Line 6). Therefore, the applicant asserts that the claimed

limitation recited in the amended claim 8 is neither taught nor suggested by Hawkins.

Additionally, claim 8 is dependent upon claim 7, and should be allowed if claim 7 is found

allowable.

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Claim 12

Claim 12 is dependent upon claim 7, and should be allowed if claim 7 is found

allowable.

25   Claim 13

Compared with Hawkins's memory assignment, the claimed method of claim 13

stores the motion vectors of a decoded macroblock located at **an Lth row and a Kth column**

in a Kth memory unit to overwrite the motion vectors of a previously decoded macroblock

stored in the Kth memory unit, wherein the previously decoded macroblock is located at **an (L-1)th row and the Kth column**. Therefore, the Kth memory unit in applicant's disclosure always stores the motion vectors of the macroblock located at the Kth column. Referring to Hawkins' Col. 8, Lines 16-21, it is obvious that the Kth memory unit in Hawkins' SRAM

5   array is not utilized to specially store the motion vectors of the macroblock located at each Kth column because Hawkins' new bottom motion vector will overwrite a top motion vector, and a new top motion vector will overwrite a bottom motion vector. The applicant's memory management is therefore distinct from Hawkins'. The applicant therefore asserts that the amended claim 13 has overcome the rejections under 35 USC 103 (a), and placed in

10   condition for allowance.

<u>Claim 17</u>

Referring to Hawkins' Col. 8, Lines 16-21, the applicant points out that the limitation recited in claim 17 that the fourth macroblock is decoded **immediately before** the third

15   macroblock cannot be achieved under Hawkins' memory assignment shown in FIG. 7. According to Fig. 7 and pertinent description in the specification of Hawkins' teaching, the new top motion vector T0 overwrites the bottom motion vector B-23, and the new bottom motion vector overwrites the top motion vector T-2. Since neither block C-23 nor block C-2 is a **macroblock** decoded immediately before the macroblock C-0, the applicant therefore

20   asserts that Hawkins fails to teach or suggest the limitation of claim 17. Additionally, claim 17 is dependent upon claim 13, and should be allowed if claim 13 is found allowable.

<u>Claims 16 and 18</u>

Claims 16 and 18 are dependent upon claim 13, and should be allowed if claim 13 is

25   found allowable.

Claims 3-5, 9-11, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawkins et al. (Hawkins) US 6,519,287 B1 in view of Kondon et al. (Kondon) US
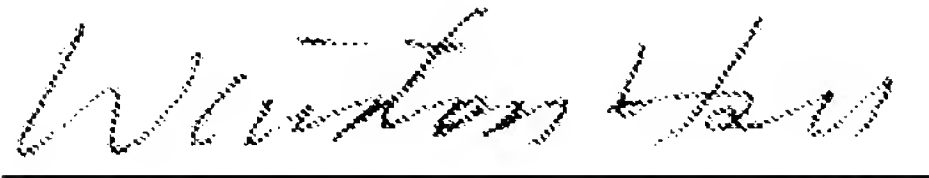
7,116,372 B2.

Response:

Claims 3-5, 9-11, 14, and 15

5   Claims 3-5, 9-11, and 14-15 are dependent upon claims 1, 7, and 13 respectively, and should be allowed if claims 1, 7, and 13 are found allowable.

       Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

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Sincerely yours,

Date: 01.09.2008

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20   Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)